6   PRODUCT GEL

6.1   GOALS:

6.1.1   To develop an understanding and working knowledge of the use of the product gel, including limitations and interpretation of results and proper documentation.

6.1.2   To become familiar with the use of controls on the product gel.

6.1.3   To become familiar with the photographic procedures used to document product gel results.

6.2   TASKS:

6.2.1   Prepare reagents and product gels necessary to evaluate the success of the amplification process. Refer to the Commonwealth of Virginia Division of Forensic Science Forensic Biology Section Procedures Manual Section III, Fluorescent Detection PCR-Based STR DNA Protocol PowerPlex® 1.1, 2.1, and 16 BIO Systems Manual for the procedure.

6.2.2   Run product gels.

6.2.3   Photograph the product gels.

6.2.4   Interpret the results of the product gels and use this information to determine if the samples are ready to be typed.

6.2.5   Read applicable literature and become familiar with glossary terms. Refer to Appendices A and B.

6.2.6   Continue on to Chapter 7, VERTICAL TYPING GEL – POWERPLEX® 16 BIO

6.3   TRAINING EVALUATION:

6.3.1   Knowledge

6.3.1.1   Review of notes, photographs, and worksheets in training notebook by training coordinator.

6.3.1.2   Oral and practical examinations.

6.3.2   Skills

6.3.2.1   The trainee should demonstrate an unquestionably sound technique for running product gels and accurately interpreting and documenting the associated results. This will be monitored by review of the documentation in the training notebook and continual observation by the training coordinator.

6.3.3   Completion of the checklist by training coordinator.

STUDY QUESTIONS:

1.   What is the purpose of a product gel?

2.   What control is used on the product gel and why?

3.   How large are the regions of interest that the analyst is trying to detect for the PowerPlex® 16 BIO loci?

TRAINING PROGRAM FOR THE ANALYSIS OF DNA DATA BANK SAMPLES USING PCR-BASED STR FLUORESCENCE IMAGING ANALYSIS AT THE POWERPLEX® 16 BIO LOCI

Issue No. 1

Effective Date: 1-August-2003

CHECKLIST FOR PRODUCT GEL

1.   Trainee has prepared reagents and gels necessary to verify the success of the amplification process.

Date:_____   Training Coordinator:_____

Comments:_____

2.   Trainee has successfully and accurately completed all appropriate paperwork associated with the product gel.

Date:_____   Training Coordinator:_____

Comments:_____

3.   Trainee has successfully run product gels for all samples amplified using the PowerPlex® 16 BIO System.

Date:_____   Training Coordinator:_____

Comments:_____

4.   Trainee has successfully photographed and interpreted the results for all product gels.

Date:_____   Training Coordinator:_____

Comments:_____

5.   Trainee has developed an understanding of the theory and limitations of the product gel, including the importance of controls.

Date:_____   Training Coordinator:_____

Comments:_____

6.   Notebook is organized and complete.

Date:_____   Training Coordinator:_____

Comments:_____

7.   Trainee has participated in question and answer sessions.

Date:_____   Training Coordinator:_____

Comments:_____

◆**END**